StormMax FG-5000 INSTALLATION & GLAZING MANUAL

TABLE OF CONTENTS

Gen	eral Information		Page No				DAJE
1	FRAME FABR	RICATION (WET GLAZE/DRY-GLAZE OPTION)					â
•	1.1	Measuring opening and sizing frame	2				<u>.</u>
	1.2	Cutting material	3		MANUAL C	OMP	_
	1.3	Vertical Mullion fabrication	3		ŀ		
	1.4	Steel reinforcing fabrication	3				ł
	1.5	Head and sill fabrication	4		· ·	ນ	
	1.6	Jamb mullion fabrication	4			ک ے ق	
	1.7	Subsill fabrication	5		6	BUIIGIINGENVEIODE 803 Airport Rd Terrell, TX 75160 (972) 551-6100	
2	FRAMING AS	SEMBLY			15 (1	
	2.1	Subsill end dam assembly	5		_ 75 €	Pt B	
	2.2	Frame panel assembly	6		Ž	5011 803 Airpa (972) 55	
3	FRAME INSTA	ALLATION			5] 80	
	3.1	Subsill sealant and splice	6				
	3.2	Installation of panel frames	7				
	3.3	Sealant at Jambs	7				
4W	WET GLAZING	G OPTION				T	
	4W.1 Glazing	preparation	8			l vino	1
	4W.2.1~2.5	Setting of glass and exterior gasket sealant	8 ~ 9			a /	1
	4W.2.6~7	Interior structural sealant application	9		90 lal	Manual review c	
4D	DRY GLAZINO	GOPTION			FG-5000	J M.	
	4D.1	Glazing Preparation	10		('j 🖺	1, <u>i</u> ,i	·
	4D.2.1~2.5	Setting of glass and exterior gasket sealant	10 ~ 11		ax FG- nd Glazing		1
5	CORNER MUI	LION FABRICATION AND INSTALLATION.	11 ~ 12	Quick Reference Guide	StormMax Installation and Glk	ে ≪ ≔	
6	DOOR INSTAL	LATION		1. Glass Sizing	rm latio	tior see	-
•	6.1	Preparation of door frame	13	D.L.O. + 1 1/8" for width and height.	to sta	ıstal alla ıct	
	6.2	Installation of door frame	13		\ \ \oldsymbol{\chi} =	Installation product spec	
	6.3.1-3.8	Door preparation and glazing	14			l is pr	-
	6.4	Entrance door frame installation	15				
					StormMax F	G-5000 IM	
	FG-5000 Parts	, Extrusions and Accessories	15			1-2010	
					SHEET	:	

GENERAL INFORMATION

FG-5000 IMPACT RESISTANT STOREFRONT SYSTEM

GENERAL INFORMATION:

Oldcastle BuildingEnvelope FG-5000 (2-1/2" x 5") impact resistant storefront system represents the latest in product development technology. This system was especially designed to meet the stringent requirements of Miami-Dade County and Florida Building Codes as well as the International Building Code for glass and glazing systems. FG-5000 successfully passed a series of large missile impact and cyclic wind test with a variety of impact-resistant glass.

BUILDING CODES:

Oldcastle BuildingEnvelope does not control the application nor selection of its product configurations, sealant or glazing materials and assumes no responsibility thereof. It is the responsibility of the owner, architect, and installer to make these selections in strict compliance with applicable laws and building codes.

STRUCTURAL SEALANTS:

Dow Corning[®] 995 structural sealants were used on the FG-5000 test specimen for glass to metal adhesion approved by Miami-Dade County. To comply with Miami-Dade County and Florida Building Code Protocols, Dow Corning[®] 995 sealant must be used for glass to metal adhesion with FG-5000.

PERIMETER SEALANTS:

Due to varying job conditions, all perimeter sealants used should be approved by the sealant manufacturer to ensure the sealant will function for the conditions shown on these instructions and shop drawings. Sealants must be compatible with all surfaces in which adhesion is required, including other sealants surfaces. Use primers where directed by sealant manufacturer. Be sure to properly store sealants at recommended temperature and check container for remainder of shelf life before using. Dow Corning[®] 795 silicone sealant was the perimeter sealant used on the FG-5000 test specimen approved by Miami-Dade County.

MATERIAL HANDLING:

SHOP

- 1. Cardboard wrapped or paper interleaved material must be kept dry.
- 2. Check arriving materials for quantity and keep record of where various materials are stored.

JOB SITE

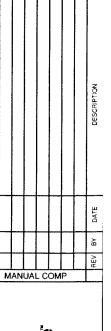
- 1. Material at job site must be stored in a safe place well removed from possible damage by other trades.
- 2. Cardboard wrapped or paper interleaved materials must be kept dry.
- 3. Keep record of where various materials are stored.
- 4. Protect materials after erection. Cement, plaster, and other alkaline solutions are very harmful to the finish.

CLEANING

Aluminum shall be cleaned with plain water containing a mild detergent, or a petroleum product such as white gasoline, kerosene, or distillate. No abrasive agent shall be used.

GENERAL CONSTRUCTION NOTES

- A. Study these instructions, shop drawings, erection drawings, and architectural drawings, before starting any work.
- B. All materials are to be installed, plumb, and level.
- C. All work should start from an established benchmark and column centerlines established by the architect and the general contractor.
- Completely check construction which will receive your materials against contract documents. Notify the general contractor by letter of any discrepancies before proceeding with your work since this constitutes acceptance of work by other trades.
- E. Protect all aluminum to be placed directly in contact with uncured masonry or incompatible materials with a heavy coat of zinc chromate or bituminous paint.
- F. Follow installation and glazing instructions.
- G. After sealant is set and a representative amount of the wall has been glazed (500 square feet or more), run a water hose test to check installation. On large jobs, hose test should be repeated during glazing operation. Test should be conducted in accordance with AAMA 501.2 specifications.



Oldcaste BuildingEnvelope^{*} 803 Airport Rd Terrell, TX 75160 (972) 551-6100



General Notes

Installation & Glazing Manual
product specific - For review only

StormMax FG-5000 Installation and Glazing Manual General Notes

Name

StormMax FG-5000 IM

Release 01-2010

2

∠ ∝ 16

FRAME FABRICATION

1.1 Establish Frame Size & Cut Metal to Length

Measure width of rough opening.

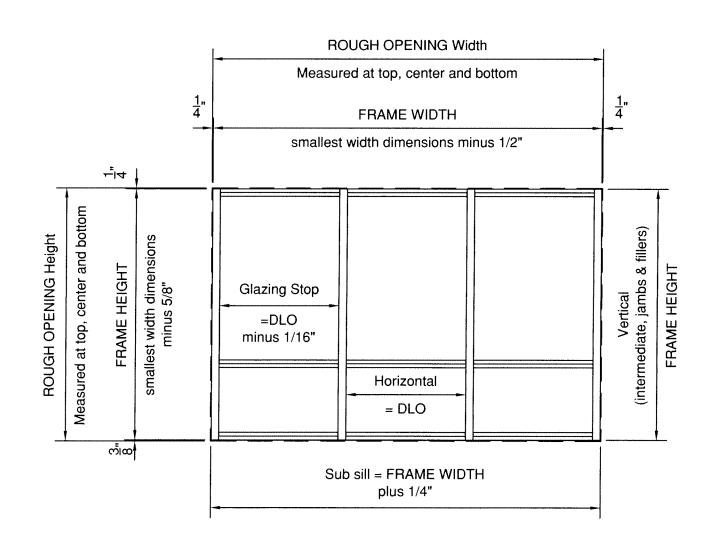
- Measure opening at bottom.
- B. Measure opening at center.
- Measure opening at top.

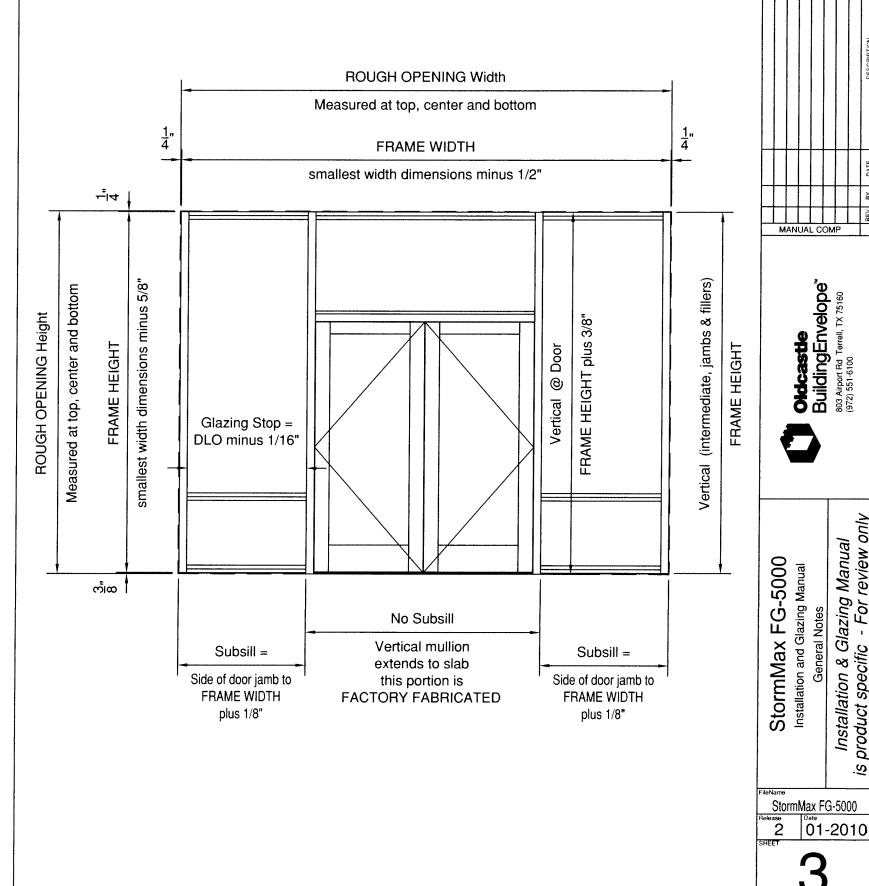
The frame width will be the smallest dimension less 1/2" allowing for a 1/4" caulk joint at each jamb.

Repeat process to determine frame height.

- Beginning on left side of opening, measure dimension from top to bottom.
- В. Repeat at center.
- Repeat at right side of opening.

The frame height will be the smallest dimension less 5/8" to allow for subsill and a 1/4" caulk joint at the head and sill.





Installation & Glazing Manual product specific - For review o

FRAME FABRICATION

1.2 Cut material to size.

Framing Members

FG-5180 Subsill flashing at frames without doors FG-5180 Subsill at entrance locations

Frame Width plus (+) 1/4".

Door jamb to Frame Width plus (+)1/8". (Subsill is to butt tight against door jamb(s) and is cut 1/8" longer than width of side

light(s) on either side of door frame.)

Verticals

FG-5201 Jambs and FG-2188 Vinyl filler Cut to Frame Height.

FG-5193 Vertical Mullions and FG-5196 filler Cut to Frame Height.

FG-5200 Corner Mullion Cut to Frame Height.

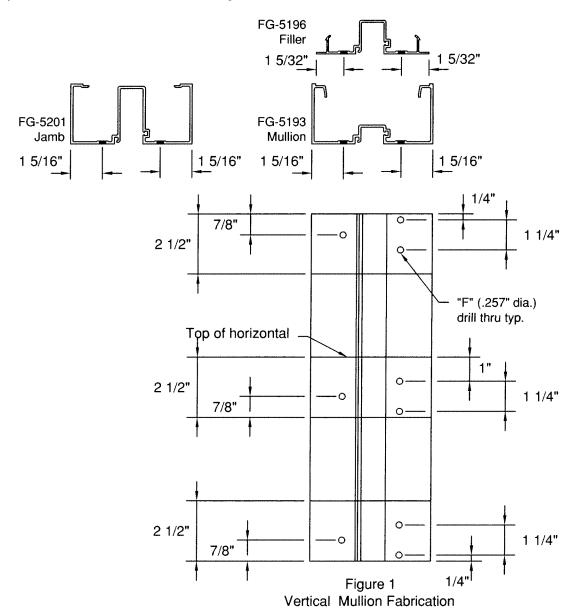
Horizontals

FG-5202 Horizontal and FG-5204 & FG-5206 Head/Sill Cut to D.L.O.

Slide in FP-5190 Glass Stops Cut D.L.O. minus(-) 1/16"

FG-2188 Channel Filler Cut D.L.O. minus(-) 1/16"

1.3 Drill or punch holes in verticals for attaching horizontals.



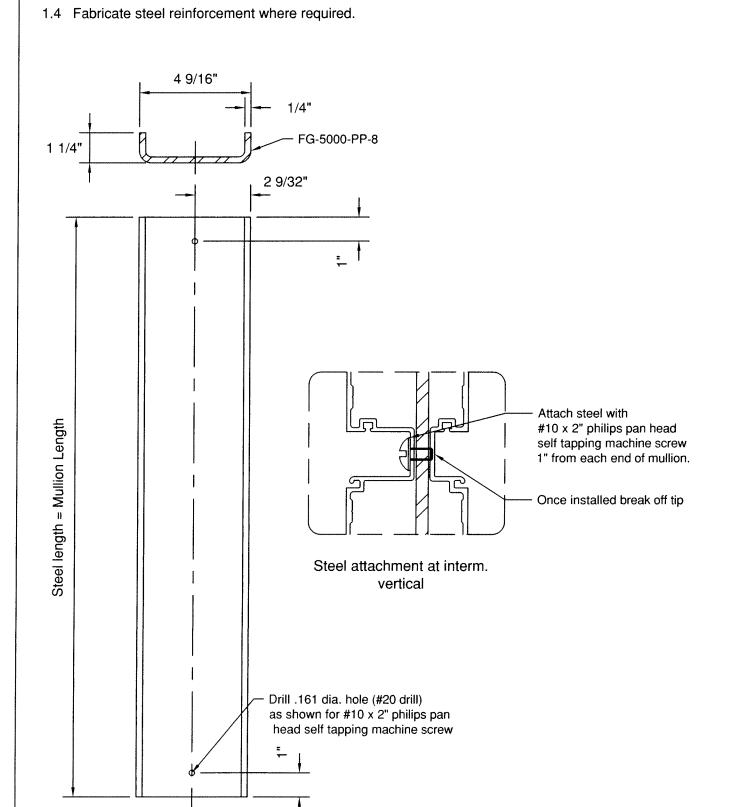


Figure 2

Steel Reinforcing





Installation & Glazing Manual product specific - For review c StormMax FG-5000 Installation and Glazing Manual

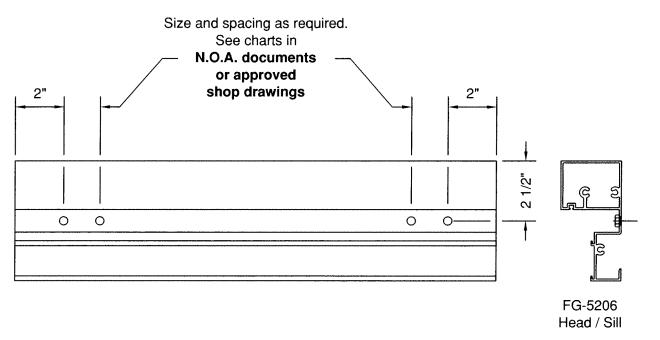
StormMax FG-5000 IM 01-2010

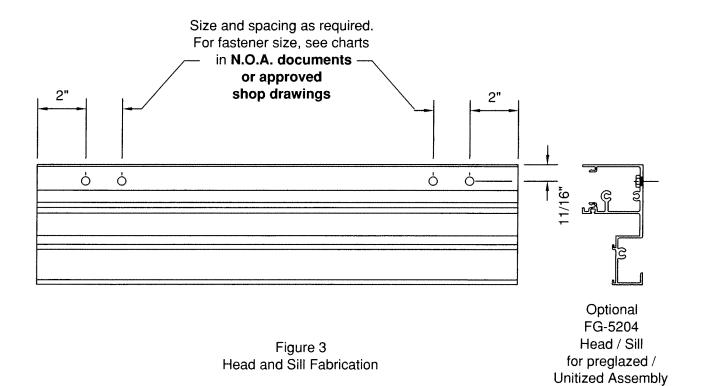
or 15

FRAME FABRICATION

DRY & WET GLAZED FRAMING

1.5 Fabricate head and sill for anchor holes, the number of anchors vary based on substrate material. Reference anchor charts for number of anchor holes and locations for each substrate. First hole is always 2" from end, each additional fastener hole are at required minimum spacing.

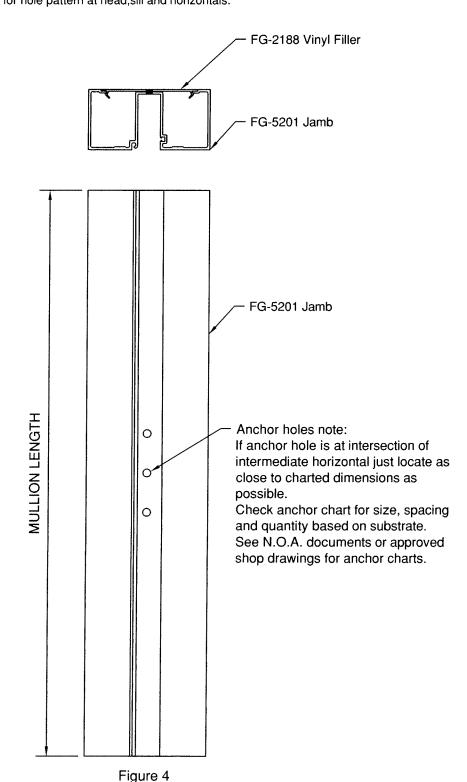




DRY & WET GLAZED FRAMING

1.6 Fabricate wall jamb for anchor holes. number of anchors vary based on substrate material. Reference N.O.A. anchor charts or approved shop drawings, for locations for each substrate. NOTE: refer to 1.3 and figure 1 for hole pattern at head, sill and horizontals.

Jamb Fabrication







Installation & Glazing Manual product specific - For review only StormMax FG-5000 Installation and Glazing Manual

StormMax FG-5000 IM

01-2010

FRAME FABRICATION

DRY & WET GLAZED FRAMING

1.7 Fabricate FG-5180 subsill flashing for end dams and non-structural fastener holes. Hole location dimensions for fasteners in subsill are approximate.

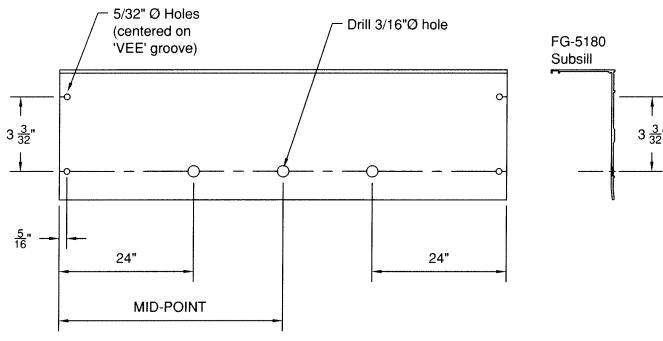
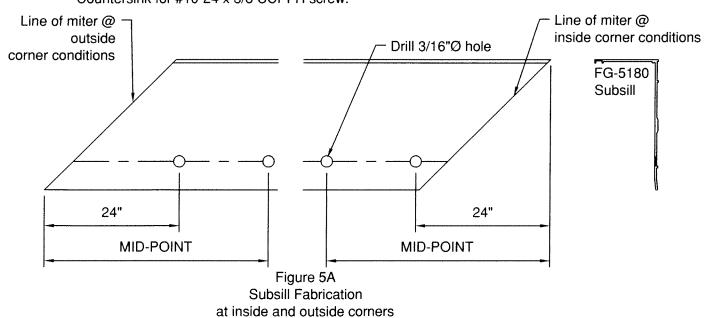


Figure 5 Subsill Fabrication

- 1.7.1 Drill 3/16 dia. hole for non-structural fasteners used for attaching subsill to substrate as shown. Repeat this hole pattern for each additional 12'-0" of length or as required to temporarily hold subsill in place until structural fasteners are installed.
- 1.7.2 Drill two each 5/32 dia. holes at each end (except end abutting a door jamb, at splice locations and mitered sections at corners) for attaching FG-5000-FP-10 end dams. Countersink for #10-24 x 3/8 UCPFH screw.



FRAME ASSEMBLY

DRY & WET GLAZED FRAMING

2.1 Apply Isocryl® tape to end dam and assemble to subsill.

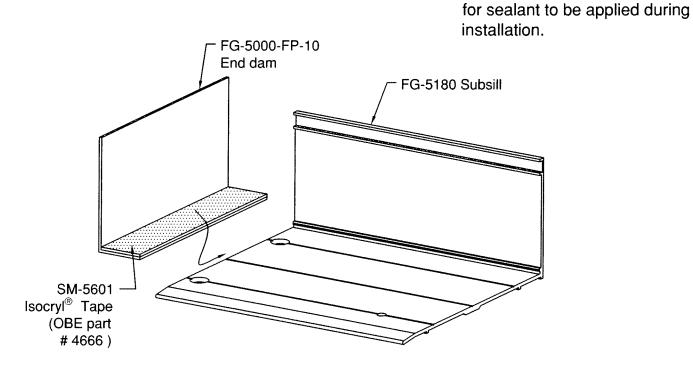
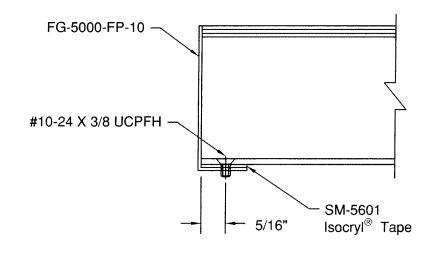


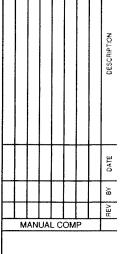
Figure 6 Subsill End Dam Attachment

Apply SM-5601 Isocryl® tape to end dams as shown and stick to the ends of subsill



Match drill holes in subsill end dam with 5/32"Ø drill. Attach with two each #10-24 x 3/8" screws as shown.

See figures 8 and 9 on sheet 6

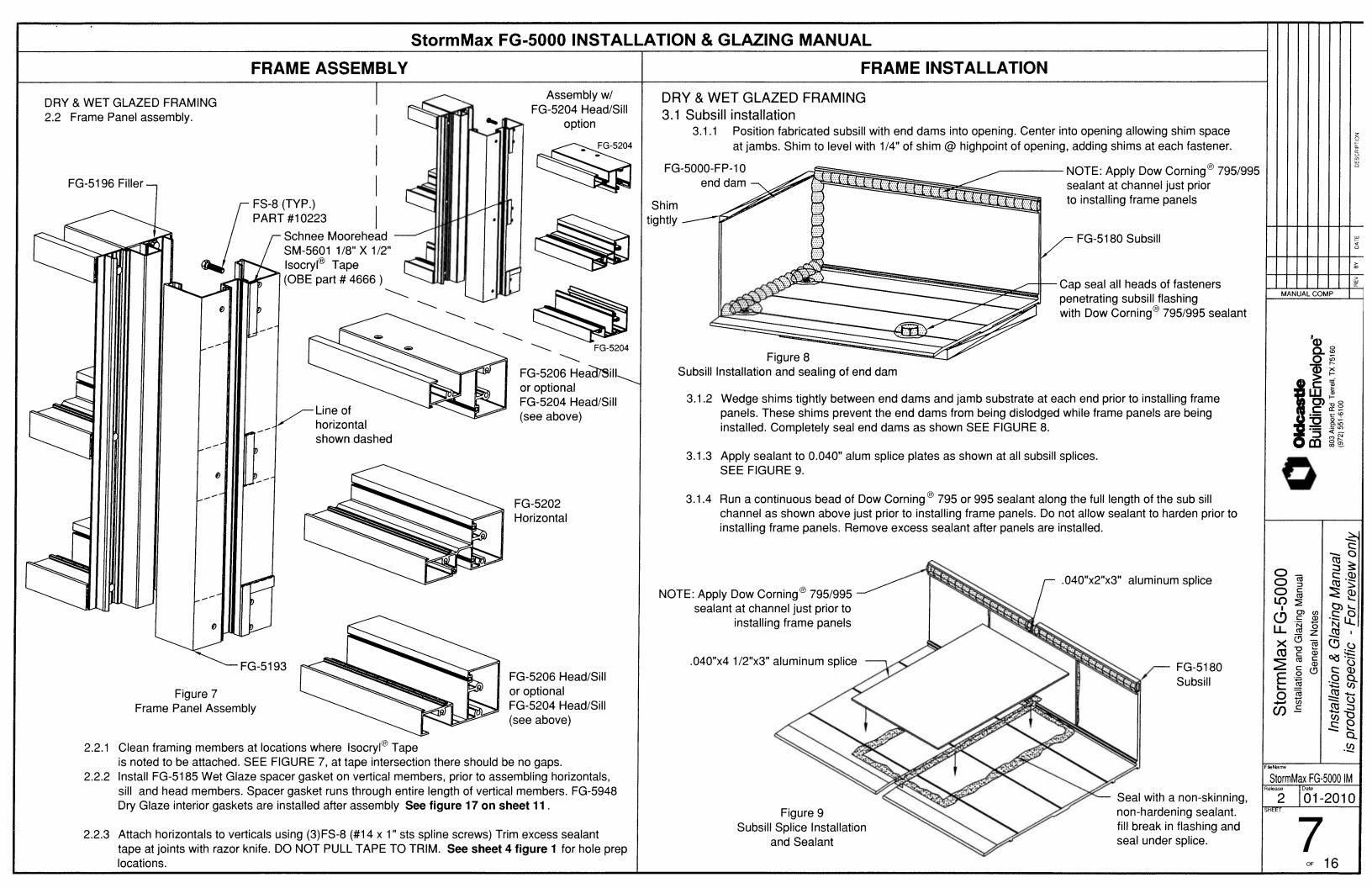




Installation & Glazing Manual product specific - For review only StormMax FG-5000 Installation and Glazing Manual General Notes

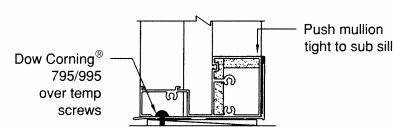
StormMax FG-5000 IM 01-2010

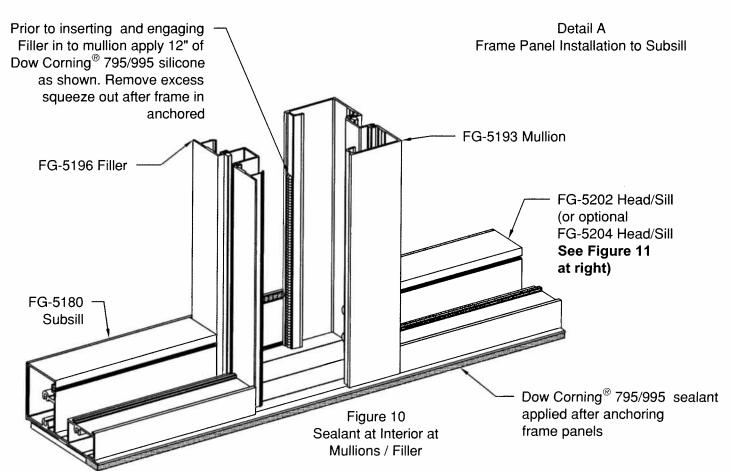
of 16



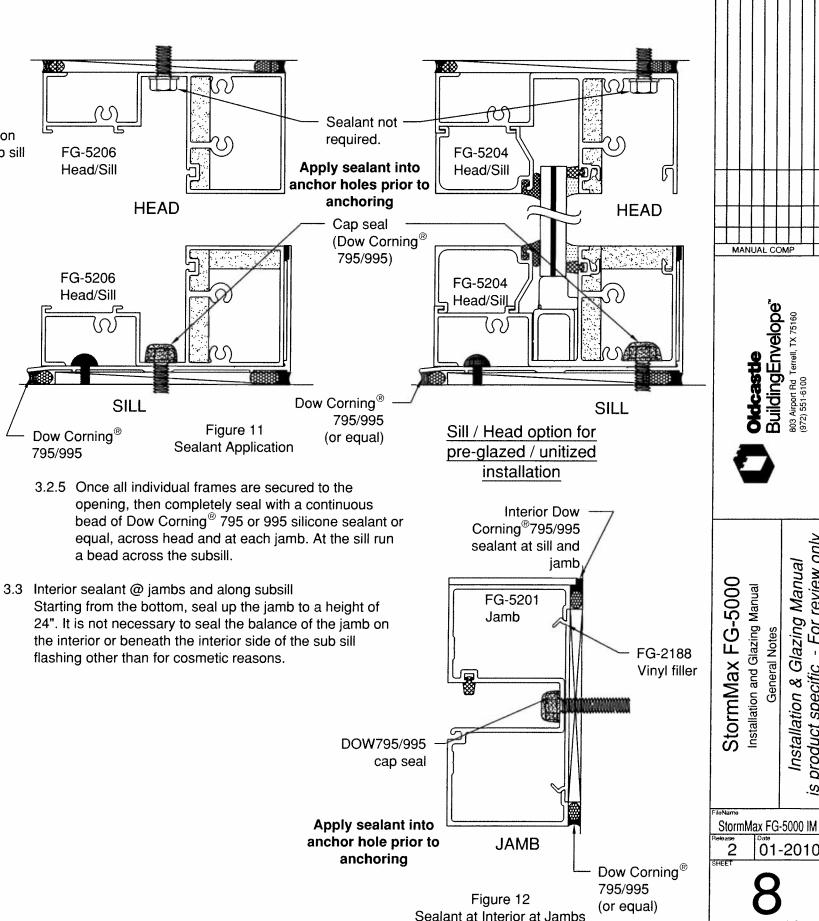
FRAME INSTALLATION

- 3.2 Installation of framing panels.
 - 3.2.1 Install assembled frame panels into opening starting at either jamb and continue working toward the other jamb until the last frame panel is installed. Ensure that the frame panels are pushed tight against the upright leg of the subsill. Remove excess sealant after panels are installed and anchored.
 - 3.2.2 Prior to assembeling each additional panel frame, apply 12" of Dow Corning® 795/995 silicone to bottom of interior snap engagement. See Figures 10 below.





- 3.2.3 After all panels are installed, shim beneath subsill as required at fasteners. Match drill holes through sill into substrate. Remove dust from holes. Apply sealant into anchor holes prior to anchoring. Cap seal with Dow Corning 9795 or 995 fastener heads.
- 3.2.4 Plumb vertical mullions, and match drill holes into substrate at head. Anchor and shim as shown. It is not necessary to cap seal fasteners at head. Check D.L.O. and diagonal dimensions every 4 bays to ensure correct spacing and frame squarness to prevent dimensional buildup.
- 3.2.4 Match drill holes in jamb to substrate. Anchor and shim as required. Cap seal fastener heads.



MANUAL COMP

i Manual review only

ation & Glazing I specific - For n

Installation & product speci

01-2010

of 16

GLAZING - WET GLAZED OPTION

4W.1 GLAZING PREPARATION -Wet Glazing Option

- 4W.1.1 Remove all debris from glazing pockets to prevent blockage of weeps/drains.
- 4W.1.2 Install water diverters see **Figure 13** after lower lite is in position.
- 4W.1.3 Install FG-5185 spacer gasket in horizontal members

 Note: also install FG-5185 at vertical, if it was not installed prior to attaching horizontals see

 Figure 7 on sheet 7.
- 4W.1.4 At sill, install FG-5192 setting chair (2 per lite at 1/4 points)

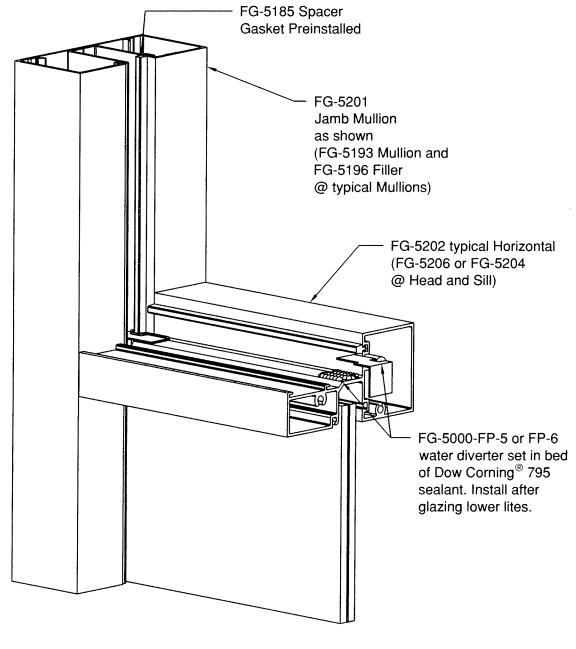
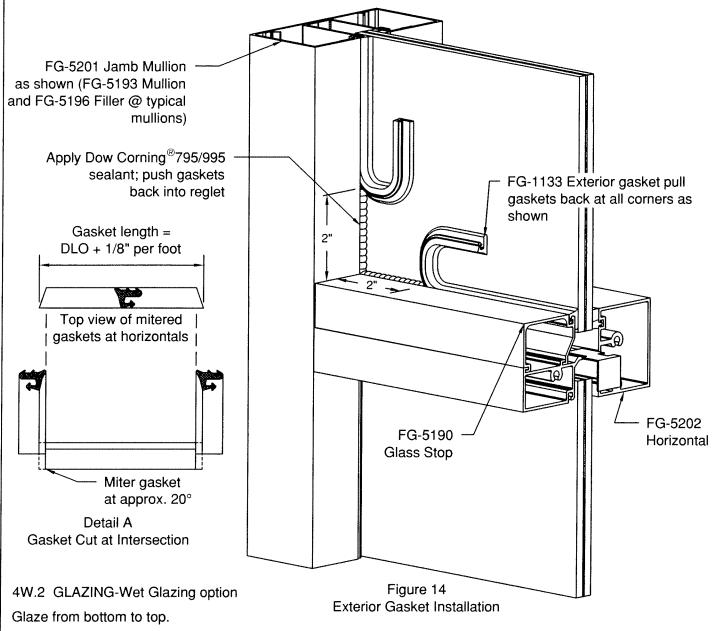


Figure 13 Water diverter and gasket assembly



- 4W.2.1 Set glass into opening, push in to deep pocket first, at sill place glass on FG-5192 setting chair, then after centering in DLO, pull glass up and position FG-5199 setting block on setting chair (at 1/4 points) **See figure 16 on sheet 10.** At horizontal same procedure is used, except no setting chair is used.
- 4W.2.2 Install exterior FG-5190 glass stops.
- 4W.2.3 Install exterior FG-1133 glazing gaskets starting at the middle of the glass
- 4W.2.4 Cut gaskets a minimum of 1/8" per foot longer than daylight opening to provide for adequate compression. as shown at **Figure 14 detail A**.
- 4W.2.5 After gaskets are pressed in place. Pull gasket from pocket as shown in Figure 13 above. Clean class and gaskets a minimum of 2" from each end with isopropyl alcohol. Apply Dow Corning [®] 795/995 sealant see Figure 14. Push gaskets into reglet, **See figure 15 on sheet 10**.

MANUAL COMP

Didicastle
BuildingEnve



StormMax FG-5000
Installation and Glazing Manual
General Notes

General Notes
Installation & Glazing Manual
S product specific - For review o

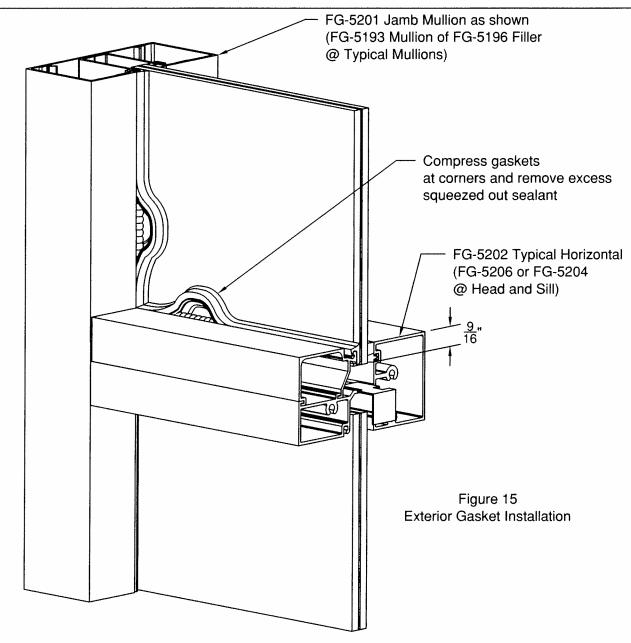
StormMax FG-5000 IM
Release Date

2 01-2010 HEET

9

of 16

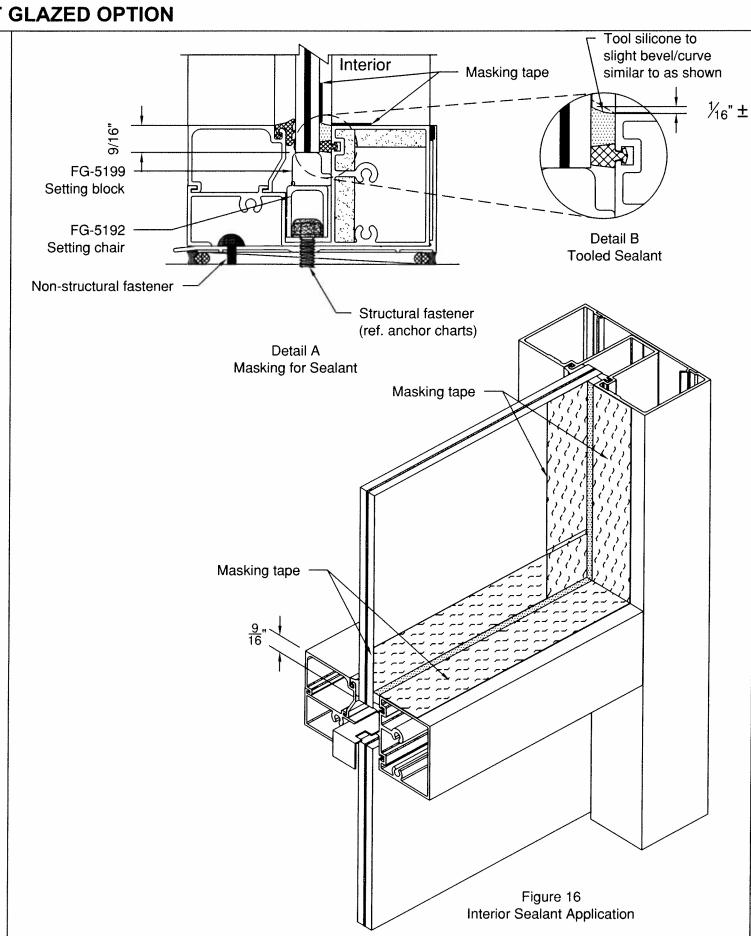
GLAZING - WET GLAZED OPTION





4W.2.6 Mask off glass and aluminum with 1" wide (minimum) low adhesion masking tape. SEE Figure 16. Working a single DLO at a time, Fill cavity around full perimeter of DLO with Dow Corning® 995 sealant as shown, care should be taken not to leave any voids and eliminate air bubbles in sealant (See Detail. A). Immediately tool, creating a finished joint with a beveled/curved joint surface See detail B above right.

4W.2.7 Remove masking tape 10 minutes after tooling; taking care not to damage tooled sealant.

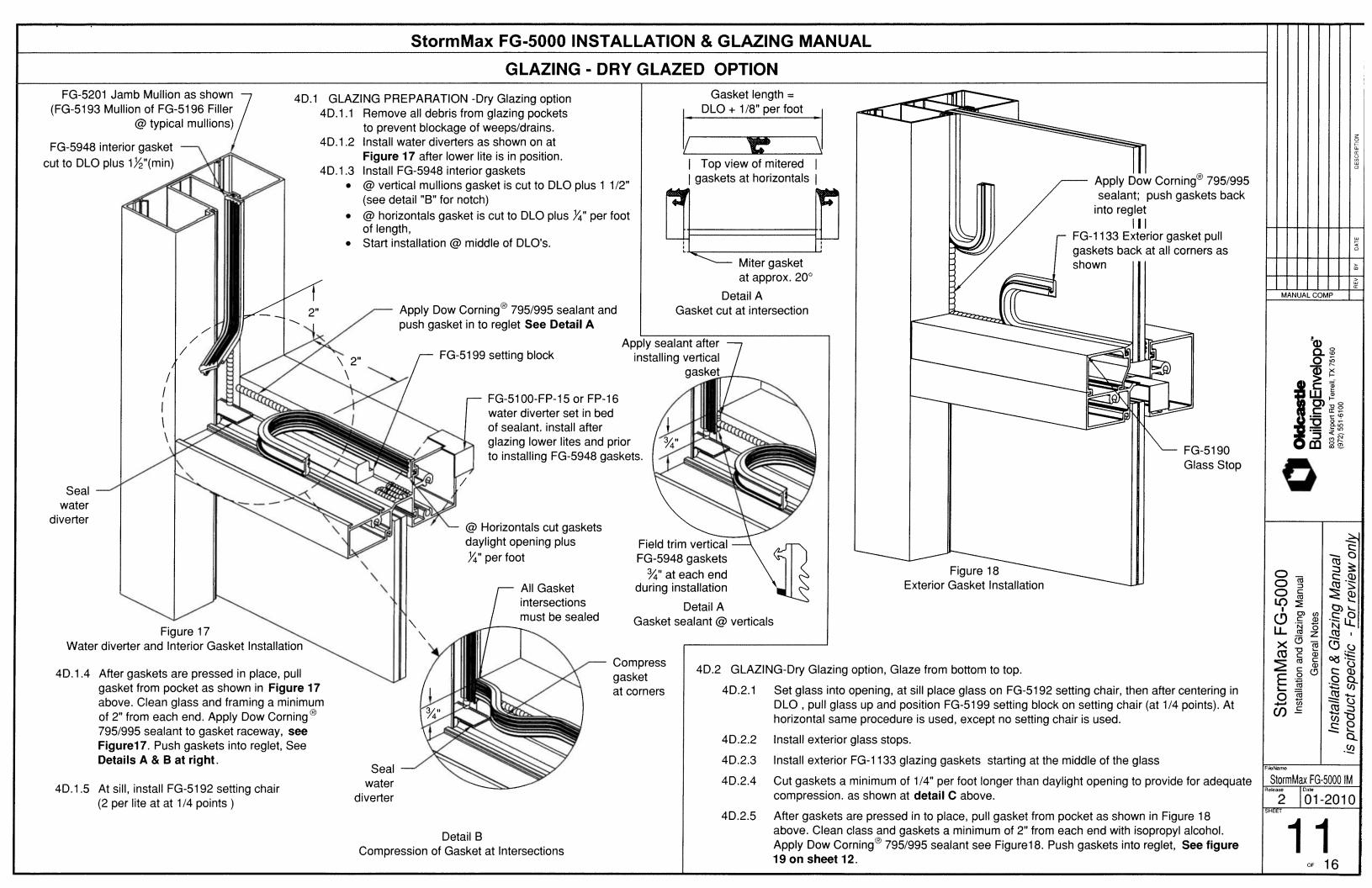


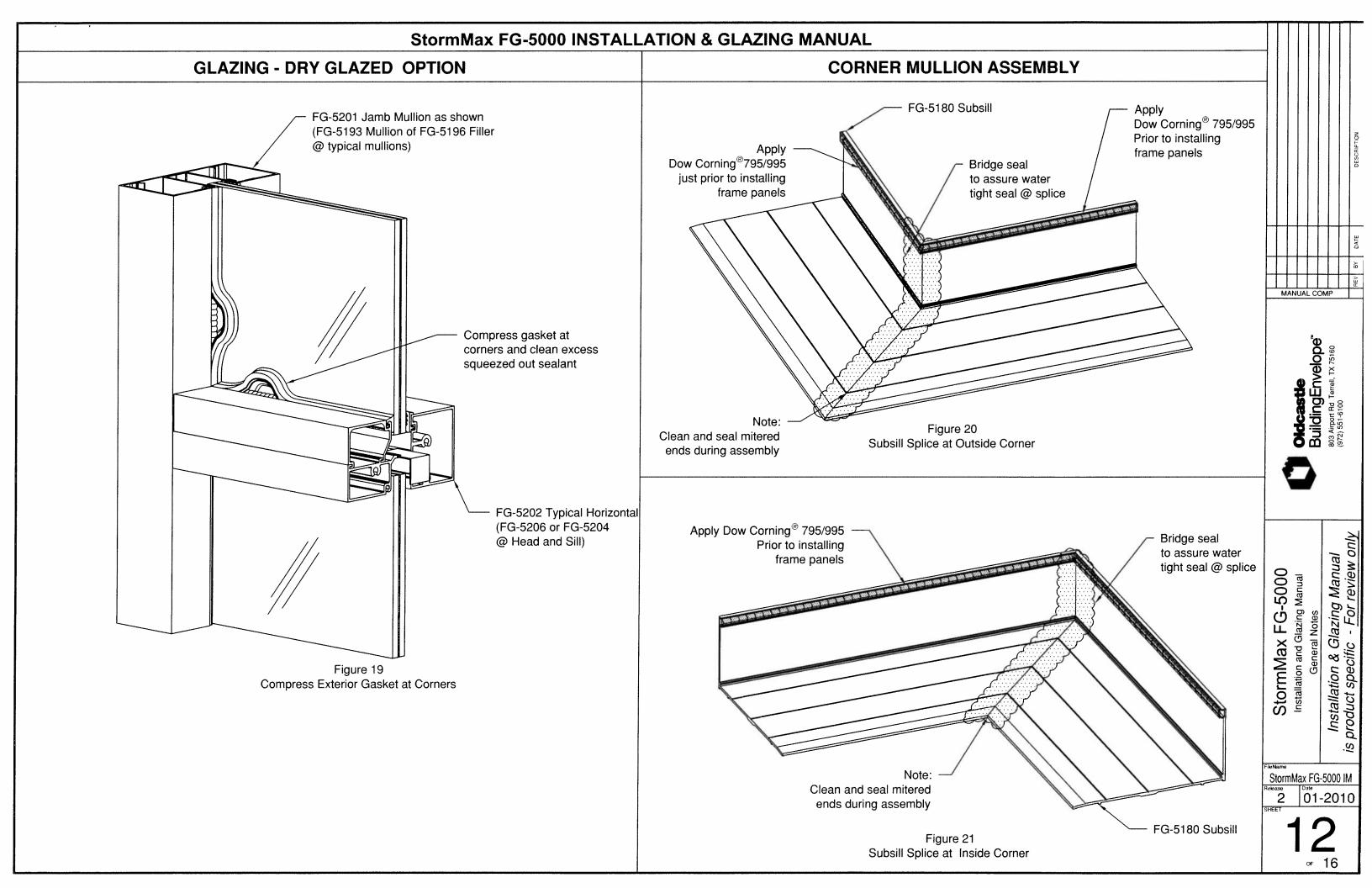
Installation & Glazing Manual is product specific - For review o

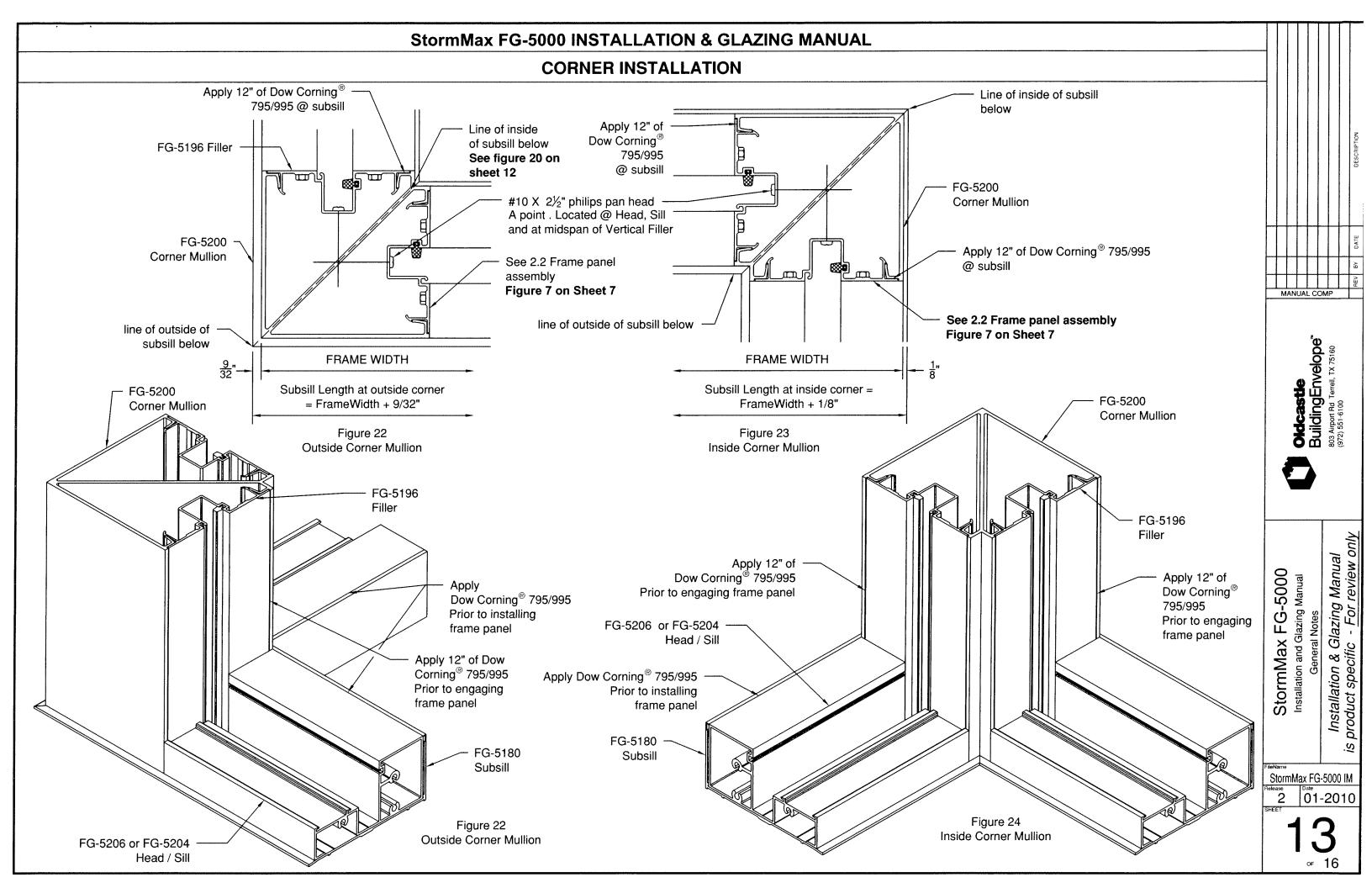
StormMax FG-5000 Installation and Glazing Manual General Notes

StormMax FG-5000 IM

01-2010







DOOR INSTALLATION

6.1 PREPARATION OF DOOR FRAME

- All hardware back-up plates are installed in the frame at the factory. Door stops and transom sash will have been cut to length and prepped in the factory.
- Stock transom frames are fabricated for a vertical frame size of 120". If your opening is smaller, cut the verticals and the sash down to the appropriate length; leaving a maximum 1/4" caulk joint at the head. The prep for the transom head horizontal should be made using either a drill fixture or EZ-punch die sets for the series FG-5000 framing.
- Review frame anchor charts in N.O.A. or approved shop drawings, for configuration and substrate for which the frame will be attached. Drill anchor holes into FG-5168 door jamb, FG-5167 flat filler and TH-57 threshold as shown in charts. (Note: CW-998 bulb gasket is not required in the FG-5168 jamb at wall).
- 6.1.1 Attach frame portion of offset pivots to frame if applicable.
- 6.1.2 Apply Schnee-Morehead SM-5601 1/8" x 1/2" Isocryl ® tape (OGEP part # 4666) to joint intersections at door header or transom bar and transom head horizontal.

Note: Keep tape away from screw splines.

6.1.3 Assemble frame and threshold with FS-8 spline screws or use alternate threshold clips and fabricate two holes in each end of threshold as shown below. Snap-in transom sash if applicable. The frame is now ready for installation.

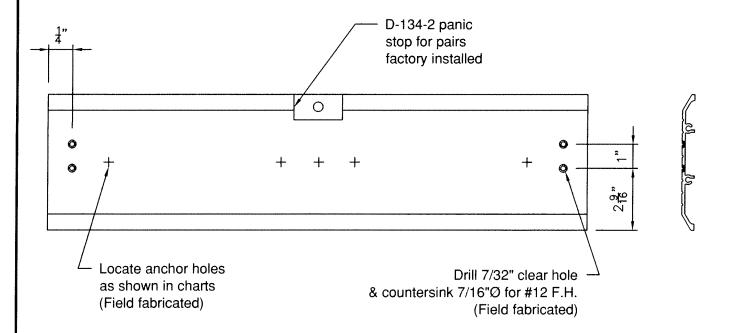


Figure 25
Threshold Fabrication

6.2 INSTALLATION OF DOOR FRAME

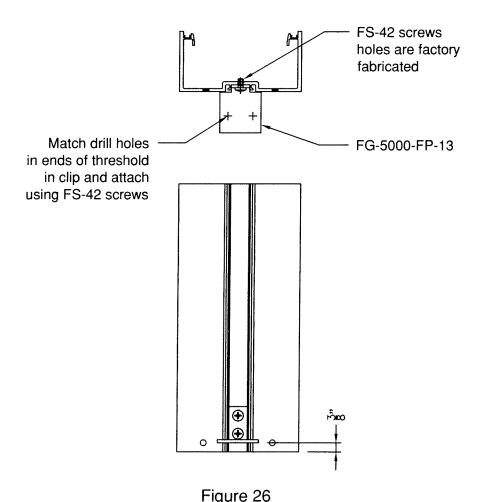
Door frame and threshold shall be completely assembled with joints neatly aligned and tight.

Door frame shall be installed square and plumb. Measure frame diagonally from corner to corner and shim until the measurements are equal.

- 6.2.1 Level door frame threshold at the high point in the slab. It is preferable to not have a high point in the slab. The door frame is designed to have the jambs run down to the slab.

 Install fasteners through frame and threshold anchor holes and securely anchor to the substrate. Position shims between framing and substrate to prevent members from bowing.
- 6.2.2 Install door stops.

You are now ready to install the door.



Alternate Threshold Attachment to Jamb



BuildingEnvelop 803 Airport Rd Terrell, TX 7516 (972) 551-6100



StormMax FG-5000
Installation and Glazing Manual
General Notes
Installation & Glazing Manual
product specific - For review onl

StormMax FG-5000 IM

Determined to the state of the state

Ś

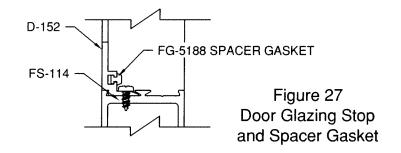
14

DOOR INSTALLATION

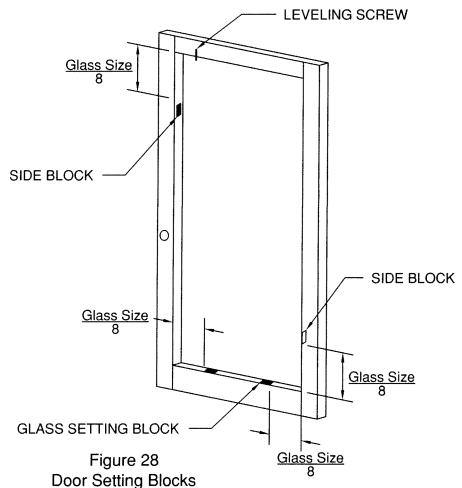
6.3 DOOR PREPARATION AND GLAZING

FP-5000-PP1 setting block/side block, V-2108 (1/4" x 1/4") spacer gasket, FS-114 (#8 x 3/8" PPHSMS) fasteners for attaching D-152 glass stop and FG-1133 gasket are shipped loose.

- 6.3.1Install D-152 glass stop, this may be installed on either interior or exterior side of the door. It is recommended that D-152 be installed on the interior side of the doors receiving panic hardware to allow for reglazing without removing the panic bars.
- 6.3.2Pilot holes are predrilled in D-152 glass stop. Determine side of door you desire to place the glass stop and match drill holes into the horizontal rails, vertical door stiles and attach with FS-114 screws.



Install FP-5000-PP1 adhesive back setting block/side block as shown below. Blocks may be doubled as required due to glass tolerances.



6.3(continued) DOOR PREPARATION AND GLAZING

- Center glass in opening on setting blocks and aligned with side blocks.
- Once the glass is in the correct position, screw the glass jack down to the top of the glass.
- 6.3.6 Install S-83 horizontals glass stop first.

Note: Top stops are notched to clear glass jack. Be sure to hook the stop into the dovetails on the rails and stiles; then snap into place. A mallet may be used to drive stops into place.

- Roll FG-1133 gasket into S-83. See detail 'A' for cutting intersections and cutting.
- Mask off glass with low adhesive masking tape and install Dow Corning ® 995 into the cavity 6.3.8 between the glass and D-152 glass stop. Remove masking tape immediately after installation of silicone taking care not to damage or pull silicone from the cavity.

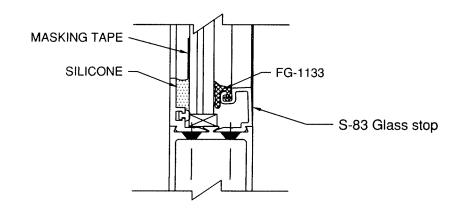
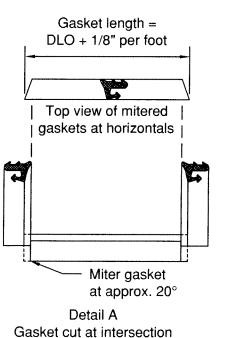


Figure 29 Door Glazing Roll in Gasket and Sealant Application





Manual review o StormMax FG-5000 Installation and Glazing Manual

Installation & Glazing product specific - For I

StormMax FG-5000 IM

01-2010

DOOR INSTALLATION

6.4 ENTRANCE DOOR FRAME INSTALLATION WITH SUBSILL FOR SIDELIGHTS

When entrance occur, install entrance frames first. Subsill butts against door jamb(s). The subsill abutting the door jamb does not require an end dam.

Field Note: The bottom of the inside of the Door Jamb mullion must be sealed to the substrate and the end of the subsill must also be sealed see Figure 30 below.

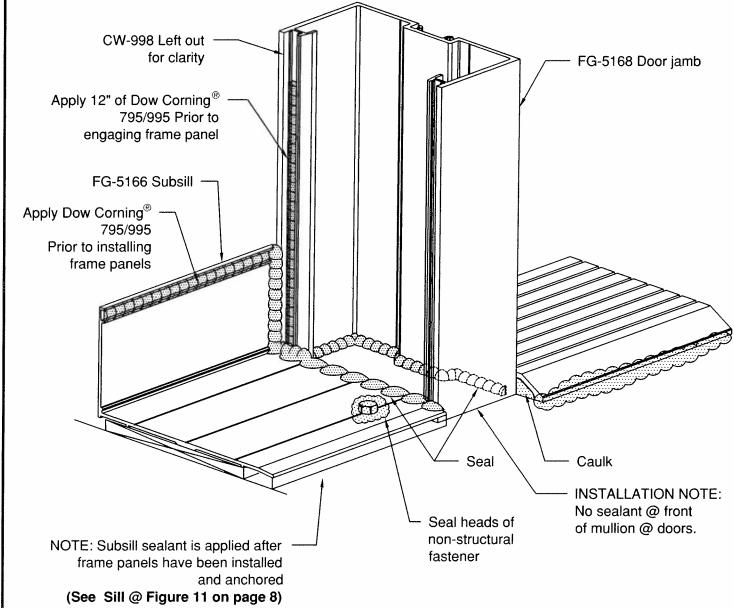


Figure 30 Door Jamb and Subsill Sealant Application

STANDARD FRAMING

PARTS LIST

STANDARD FRAMING				
ITEM	DESCRIPTION			
FG-5113	Channel Filler			
FG-5193	Vertical Mullion			
FG-5201	Wall Jamb			
FG-5202	Intermediate Horizontal			
FG-5204	Head/Sill			
FG-5206	Head/Sill			
FG-5190	Glass Stop			
1 1 1 1 1 1 1 1 1 1	Pocket Filler for FG-5193			
FG-5180	Subsill Flashing			
FG-5200	Corner Mullion (Fits with FG-5196)			
FG-2168	Vinyl Filler Plate			

STANDARD ACCESSORIES				
ITEM	DESCRIPTION			
FG-5199	Setting Block (OGEP # 13955)			
SM-5601	Joint Sealant Tape 1/8" x 1/2" x 30' roll (OGEP # 4666)			
J FG-5948	Interior Glazing Gasket Dry Glazed option (OGEP # 15206)			
FG-1133	Exterior Glazing Gasket (OGEP # 14938)			
FG -5185	Interior Spacer Gasket Wet Glazed option (OGEP # 12825)			
FG-5000-FP-10	Sill Flashing End Dam (Attach with 2 ea. FS-54 screws) (OGEP # 9957)			
FG-5000-FP-6 FG-5000-FP-5	Wet Glazed Water Diverter (OGEP # 9904 (FP-5)) (OGEP # 9906 (FP-6))			
FG-5000-FP-16 FG-5000-FP-15	Dry Glazed Water Diverter (OGEP # 34012 (FP-15)) (OGEP # 34010 (FP-16))			
FG-5000-PP-8	Steel Reinforcing 10'-0" Use with FG-5193			
FG-5192	Setting Chair (OGEP # 13957)			
FS-54	#10-24 x 3/8" UCPFH Screws (OGEP # 12834)			
Shinnin FS-8	#14 x 1" HHSTS B point (OGEP # 552) Assembly Screw			
FS-42	#12 x 1/2" PFH UC B point (OGEP # 4027) Assembly Screw			



Installation & Glazing Manual product specific - For review o StormMax FG-5000 Installation and Glazing Manual

StormMax FG-5000 IM 01-2010